

Vesicular Stomatitis

Vesicular stomatitis is a viral disease that primarily affects cattle, horses, and swine. The virus that causes vesicular stomatitis has a wide host range. This disease also occasionally affects sheep and goats. Many species of wild animals, including deer, bobcats, goats, raccoons, and monkeys, have been found to be susceptible hosts. Humans can also become infected with vesicular stomatitis when handling affected animals.

Vesicular stomatitis is most likely to occur during warm months in the Southwest, particularly along riverways and in valleys. The Southwestern United States experienced a vesicular stomatitis outbreak from May 1998 through January 1999. It is essential that veterinarians and livestock owners be on the alert for animals displaying clinical signs characteristic of the disease.

In affected livestock, vesicular stomatitis causes blisterlike lesions to form in the mouth and on the dental pad, tongue, lips, nostrils, hooves, and teats. These blisters swell and break, leaving raw tissue that is so painful that infected animals generally refuse to eat or drink and show signs of lameness. Severe weight loss usually follows, and in dairy cows, a severe drop in milk production commonly occurs. Affected dairy cattle can appear to be normal and will continue to eat about half of their feed intake.

While vesicular stomatitis can cause economic losses to livestock producers, it is a particularly significant disease because its outward signs are similar to (although generally less severe than) those of foot-and-mouth disease, a foreign animal disease of cloven-hoofed animals that was eradicated from the United States in 1929. The clinical signs of vesicular stomatitis are also similar to those of swine vesicular disease, another foreign animal disease. The only way to tell these diseases apart is through laboratory tests.

Veterinarians of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS) work to keep vesicular stomatitis from becoming established in the United States because of its similarity to other diseases of concern, its negative impact on livestock production, and its public health implications. Vesicular stomatitis is recognized internationally as a reportable disease. Exports of U.S. livestock and animal products would be restricted if vesicular stomatitis were allowed to spread in this country.

Epidemiology

Vesicular stomatitis has been confirmed only in North and South America. It is known to be an endemic disease in the warmer regions of the Western Hemisphere, but outbreaks of the disease occasionally occur in temperate geographic areas.

How vesicular stomatitis spreads is not fully known; insect vectors, mechanical transmission, and movement of animals are probably responsible. One type of vesicular stomatitis virus is known to be spread by phlebotomine sandflies. Once introduced into a herd, the disease apparently moves from animal to animal by contact or exposure to saliva or fluid from ruptured lesions.

Humans can contract vesicular stomatitis when handling affected animals if proper biosafety methods are not followed. Prevalence of this disease in humans may be underreported because it may often go undetected or be misdiagnosed. In people, vesicular stomatitis causes an acute influenzalike illness with symptoms such as fever, muscle aches, headache, and malaise.

Clinical Signs

In affected livestock, the incubation period for vesicular stomatitis ranges from 2 to 8 days. Often, excessive salivation is the first sign. Body temperature may rise immediately before or at the same time lesions first appear. Initially, close examination of the mouth reveals blanched and raised vesicles. In horses, these lesions generally occur on the upper surface of the tongue. In cattle, the lesions usually appear on the hard palate, lips, and gums, sometimes extending to the muzzle and nostrils. Dairy cattle often suffer from teat lesions and subsequent mastitis. Affected pigs usually first show signs of lameness caused by foot lesions.

The morbidity rate for vesicular stomatitis varies considerably within species. For example, about 5 to 10 percent of affected herds generally show clinical signs of the disease. Up to 80 percent of dairy cattle herds have become affected by vesicular stomatitis. If there are no complications such as secondary infections, then affected animals recover in about 2 weeks. Vesicular stomatitis does not generally cause animals to die.

Recommended Actions

There is no specific treatment or cure for vesicular stomatitis. Owners can protect their animals from this disease by avoiding congregation of animals in the vicinity where vesicular stomatitis has occurred.

Mild antiseptic mouthwashes may bring comfort and more rapid recovery to an affected animal. Good sanitation and quarantine practices on affected farms usually contain the infection until it dies out of its own accord.

When a definite diagnosis is made on a farm, the following procedures are recommended:

- Separate animals with lesions from healthy animals, preferably by stabling. Animals on pastures apparently are affected more frequently with this disease.
- As a precautionary measure, do not move animals from premises affected by vesicular stomatitis—unless they are going directly to slaughter—for at least 30 days after the last lesion found has healed.
- Implement onfarm insect control programs that include the elimination or reduction of insect breeding areas and the use of insecticide sprays or insecticide-treated eartags on animals.
- Use protective measures when handling affected animals to avoid human exposure to this disease.

Report Suspicious Cases

Veterinarians and livestock owners who suspect an animal may have vesicular stomatitis or any other vesicular disease should immediately contact State or Federal animal health authorities.

Additional Information

For more information, contact:
USDA, APHIS,
Veterinary Services
Emergency Programs
4700 River Road, Unit 41
Riverdale, MD 20737-1231
Telephone (301) 734-8073

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